Paper Number: 2159

Radioactive measurement at the fallow field that was polluted by the Fukushima Daiichi Nuclear Power Station Disaster.

Kazuya.KIMURA.[1], Hisahi.NIREI.[1,2], Kunio.FURUNO.[2], Tomoyo.HIYAMA.[3], Shoichi.UESUNA.[4]

1: Medical Geology Research Institute (MGRI). Japan. E-mail: kk21571@gmail.com

2: Japan branch of GEM IUGS. Japan.

3: Kanto Construction Co., Ltd. Japan.

4: The Geo-pollution Control Agency. Japan.

The Great East Japan Earthquake happened on March 11, 2011. After that, the Fukushima Daiichi Nuclear Power Station Disaster occurred as a second accident. In a result, radioactive material (mainly Cesium-137 and Cesium-134) was emitted into the atmosphere. And it brought on emissive geo-pollution in east japan.

In the current study, we introduce the results of the survey at one field site that has been contaminated with radiological matter by that disaster. In the survey, we collected samples according to geo-stratigaraphical units, and measured radioactivity concentration. As a result, we found several trends, e.g. activity concentration is the higher in a topsoil of than other deeper units in many cases. This is because clay minerals within the topsoil trap the radiogenic particles, and therefore, the lower the unit, the lower the radioactive concentration in depth. The key finding is that geo-pollution by the radioactive material conforms with geo-stratigraphical units. Thus, when we survey the field polluted by radioactive material, we should use a “Geo-Stratigraphical Unit Investigation Method” [1].

References:

[1] Hisashi Nirei et al. (2012) Episodes 35(2): 333-336